

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of producing a magnetic recording medium comprising a step of forming successively a nonmagnetic substrate, a metal underlayer and a ferromagnetic metal layer in a multilayer wherein

the step of forming said ferromagnetic metal layer is a step of forming alternately a plurality of ferromagnetic films and one or more nonmagnetic metal spacer layer or layers in a multilayer, and comprising

a step of allowing at least the interface of said nonmagnetic metal spacer layer or layers to adsorb physically oxygen and/or nitrogen.

2. (Original) The method of producing the magnetic recording medium according to claim 1 wherein said nonmagnetic metal spacer layer or layers is or are formed in such a way that said oxygen and/or nitrogen may be contained in the film of the nonmagnetic metal spacer layer or layers.

3. (Previously presented) The method of producing the magnetic recording medium according to claim 1 wherein the gas used for forming said nonmagnetic metal spacer layer or layers is a mixed gas obtained by mixing oxygen or nitrogen with Ar or other rare gases.

4. (Original) The method of producing the magnetic recording medium according to claim 3 wherein the partial pressure of oxygen or nitrogen contained in such mixed gas is set at 10^{-7} Torr or above and 10^{-3} Torr or below.

5. (Original) The method of producing the magnetic recording medium according to claim 4 wherein the partial pressure of oxygen or nitrogen contained in such mixed gas is set at 3×10^{-6} Torr or above and 3×10^{-5} Torr or below.

6. (Previously presented) The method of producing the magnetic recording medium according to claim 1 wherein the step of allowing at least the interface of said nonmagnetic metal spacer layer or layers to adsorb physically oxygen and or nitrogen is a step of exposing the surface of said nonmagnetic metal spacer layer or layers to an atmosphere containing oxygen and/or nitrogen.

7. (Original) The method of producing the magnetic recording medium according to claim 6 wherein the exposure of the surface of said nonmagnetic metal spacer layer or layers to oxygen is set at 10 Langmuir or more.

8. (Previously presented) The method of producing the magnetic recording medium according to claim 1 wherein a metal film containing a kind or more of element or elements chosen from Ru, Ir, Cu and Os for said nonmagnetic metal spacer layer or layers is formed.

9. (Previously presented) The method of producing the magnetic recording medium according to claim 1 wherein the thickness of said nonmagnetic metal spacer layer or layers is set at 0.5 nm or more and 1.0 nm or below.

10-14. (Canceled).

15. (New) A method of producing a perpendicular magnetic recording medium comprising a step of forming successively a nonmagnetic substrate, a metal underlayer and a ferromagnetic metal layer in a multilayer wherein

the step of forming said ferromagnetic metal layer is a step of forming alternately a plurality of ferromagnetic films and one or more nonmagnetic metal spacer layer or layers in a multilayer, and comprising

a step of allowing at least the interface of said nonmagnetic metal spacer layer or layers to adsorb physically oxygen and/or nitrogen.

16. (New) A method of producing a perpendicular magnetic recording medium as claimed in claim 15, wherein the at least the interface of said nonmagnetic metal spacer layer or layers adsorbs oxygen.

17. (New) A method of producing a perpendicular magnetic recording medium as claimed in claim 15, wherein the at least the interface of said nonmagnetic metal spacer layer or layers adsorbs nitrogen.

18. (New) A method of producing a perpendicular magnetic recording medium as claimed in claim 15, wherein the at least the interface of said nonmagnetic metal spacer layer or layers adsorbs oxygen and nitrogen.